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ABSTRACT

The purpose of this study was to compare the retention, progression, graduation, and attrition rates of first time freshman enrolled in four-year undergraduate programs at the University of Nevada, Reno (UNR), and Pittsburg State University (PSU), Pittsburg, Kansas. The characteristics of both schools and the limitations of the study are presented in detail. The study found that the attrition rate was greatest between the freshman and sophomore years at both schools, that out-of-state students had a first year attrition rate of 38 percent for PSU and 40 percent for UNR. Other results, such as effects of "stopping out" are discussed. as well as implications for further research and college retention programs. (Contains 18 references.) (MDM)

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A Ten Year Longitudinal Study Comparing  
1980 Freshman Students' Persistence to  
Graduation at Two Selected Universities

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## Introduction

Graduation rates may become one of the most important and pressing issues of the 1990s for higher education. For example, in South Carolina; The Commission on Higher Education has made attrition and graduation rates part of Institutional Effectiveness and the Assessment Process of Higher Education Programs (South Carolina Commission on Higher Education, 1989). It is a multifaceted problem that is influenced by every sector of the university and by each individual who comes in contact with students. A customer oriented environment responsive to diverse student needs is being implemented at a few post secondary institutions.

Some studies have indicated that persistence to graduation is related to early goal setting, the expectations of the individual and institutional fit (Cope & Hannah, 1975; Tinto & Wallace, 1986). The first semester of college enrollment is crucial. Most attrition occurs during the freshman year as a failure to address clearly defining one's goals, by not identifying a program of study or because of personal factors rather than institutional conditions (Muskat, 1979). Newlon and Gaither (1980) hypothesize that one factor assisting in persistence to graduation is the declaration of a major as soon as possible, especially if a particular academic emphasis is acknowledged and it is career related. According to an Education Department survey cited in Newslinks (1992), less than half of the students who entered college in the mid-1980s had received a degree from that institution six years later.

The primary purpose of this study was to compare first time freshman enrolled in four year undergraduate programs at the University of Nevada, Reno and Pittsburg State University located in Pittsburg, Kansas. The

study sought to provide comparative information on retention, progression, graduation and attrition rates for two groups. These included 100 in-state and 100 out-of-state students who matriculated for the 1980 fall semester through the 1991 spring semester. A random sample technique was used in selecting student groups. Students who enrolled for credit prior to the 1980 fall semester in either a superior (high school) student program or who attended a summer school session were deleted from the study. International students were not included in the out-of-state samples.

#### Similarities and Differences

This study was conducted, based on the fact one of the researchers was employed at Pittsburg State University (PSU) and the University of Nevada, Reno (UNR) both state-supported institutions. PSU is a regional university in the mid-west and UNR is a Land-Grant State University in the far west. Both campuses had small minority student populations in the 1980s and are located in close proximity to contiguous states which helps in the attraction of out-of-state students. UNR is close to California, while PSU is near the states of Missouri, Oklahoma and to a lesser degree Arkansas.

Financial needs were commonly cited as one of the reasons students left school according to exit interviews conducted by student services personnel at both institutions (Rao, 1990; Pearson, 1991). An academic advisement center to assist high risk and undeclared academic majors was installed at both UNR and PSU to address retention concerns.

Admissions policies may reflect some of the variances in the retention and progression statistics. Each applicant for admission (in-state and out-of-state) to regular first year or freshman standing at

UNR in 1980 had to provide evidence of graduation from an accredited or approved high school with an overall high school grade point average of 2.3 (on a 4.0 scale) or above on all credit courses with grades (General Catalog, 1988). As cited in the 1989-91 Pittsburg State University Catalog, by law, an offer of admission is presented to all applicants who are graduates of Kansas high schools accredited by the State Board of Education. Graduates of accredited high schools outside of Kansas were eligible for admission if the academic record placed the student in the upper one-half of their graduating class. For nonresident applicants, an overall grade point average of 2.0 on a 4.0 scale would also qualify for regular freshman admission.

It appears that both institutions had somewhat similar less competitive standards for freshman admission. While PSU maintained an open admissions policy for in-state students, UNR would admit resident freshman students on probation with overall grade point averages between 2.0 and 2.29. After a January 1985 decision by the University of Nevada System Board of Regents, first year admission requirements were adjusted to include satisfactory completion of specified high school courses effective for the 1989 fall semester. At the time of this writing adoption of a prescribed curriculum of secondary school courses is being reviewed by some members of the Kansas State Board of Regents.

In comparing retention, progression and graduation rates between the 1980 fall matriculants at the University of Nevada, Reno and Pittsburg State University the following differences may further explain some variances in the rates. PSU is located in a small town in close proximity to three other states. UNR is an urban campus with better than average work opportunities for students in the gaming and tourism industries. The passage of the "Good Neighbor" reduced nonresident tuition policy,

effective for the 1988 fall semester, may have helped retention efforts. California residents approved under the "Good Neighbor" policy were able to attend UNR and pay only \$200 a semester instead of the \$1,500 per semester out-of-state fee.

Nontraditional college students, enrolled in greater numbers during the decade of the 1980s. Some of these students may take a longer time to complete a degree due to family and job responsibilities (Webb, 1987). Others may not intend to earn a degree at all (Lewis; Leach & Lutz, 1983). Based on its unique employment milieu UNR appears to have student patterns of stopping out for longer periods of time, rather than dropping out with no intention of continuing one's studies at a later date.

#### Conditions of the Study

By reviewing the data in September 1985 and May 1991 for UNR and at the end of the decade for PSU in May 1991, it was hard to monitor select variables. This after the fact examination was unrealistic in correlating traditional variables of high school performance (college entrance test scores, cumulative grade point average, class rank), age, sex, race, religion, family income, socioeconomic status and parents' education (occupation, level of encouragement). Also a correlation study of the institutional variables of receipt of financial aid, employment, service club participation, social activities, career choice, career plans and residence arrangements was not feasible due to the inadequate data retrieval capacity that existed in both universities record and computer systems at that time. PSU adopted on-line computer information systems in the mid 1980s and UNR in the early 1990s respectively. Admissions data were not re-entered retroactively for the 1980 freshman class. Therefore

a manual data collection gathering process was used to compile and analyze the vital information on retention, progression and graduation.

#### Limitations

This study was limited in that half of the data were collected manually in 1991. No computer support or access to initial admissions information was available at Pittsburg State University. In both the PSU and UNR samples, no attempt was made to focus on personal circumstances, background (social class), financial status, health concerns, or the academic differences between decided and undeclared majors or between persisters and non-persisters. No correlation between the traditional variables of secondary school rank, class grades and standardized test scores was attempted.

The study failed to take into account the characteristics associated with success (academic progress to the next class rank), or how the frequency of students' interactions with support staff or faculty beyond the classroom can aid in adjustment and institutional fit. It is well documented that a students' interactions into the social and academic systems of a university helps determine students' persistence (Tinto, 1975).

The study did not provide separate longitudinal tables on those who left during the initial year primarily for academic reasons and those who departed for personal or other non-academic reasons. The data compiled failed to distinguish between voluntary and involuntary withdrawals. No information was available on intervention programs or developmental activities. No attempt was made to collect information (after the fact) on attainers who left prior to graduation, after achieving their individual goals for college study.

In conducting a longitudinal study after students have completed a decade of enrollment, the type of data provided indicates the limitations of this research. However, this study should help provide a benchmark for continued analysis at both UNR and PSU.

#### Definitions

For the purpose of this study, persistence will be defined as meaning continued enrollment at Pittsburg State University or the University of Nevada, Reno. Attrition will indicate discontinuation of enrollment prior to graduation. A stopout is a student who temporarily discontinues their collegiate studies for a semester, an academic year or more and returns. A dropout is an individual whose disenrollment is expected to be permanent and did not re-enroll prior to the 1990 fall semester.

It is sometimes difficult to measure or predict if a change will take place in the academic plans of a student who previously was enrolled. In this longitudinal study it is interesting to note that at both institutions, people who stopped out with a hiatus of as much as four years had enrolled at a later date. This group of individuals was then reclassified from dropout to stopout status.

#### Results

At both Pittsburg State University and the University of Nevada, Reno for in-state and nonresident students the attrition rate was greatest between the freshman and sophomore years (Tables 1 & 2). After examining photocopies of all student transcripts, the two groups (in-state and out-of-state students at UNR and PSU) each averaged a dozen students at the end of the freshman year who maybe classified as academic dropouts (suspended or placed on probation) who did not return. A review of the data on in-state retention, and graduation rates for both schools reveals

different progression patterns (Table 3). The difference may be a result to some degree of the better than average availability of employment opportunities (24 hours a day) in the Reno-Sparks area of Nevada. The data indicated that on the University of Nevada, Reno campus many regularly admitted freshman students enrolled for less than a full-time equivalent course load of 12 semester credits to accommodate work schedules. If this pattern continued it would be predictable that traditional four and five year graduation rates would appear low for students enrolled at UNR.

In fact for out-of-state/nonresident students at both schools, the 38% for PSU and 40% for UNR, first year attrition maybe an even more significant piece of data (Table 4). It is also interesting to note that while the out-of-state retention rates of 42% and 41% are close when compared to the senior year, the progression rates vary significantly at 29% for PSU and 14% at UNR. According to Cope (1978) it will take many years for an entering freshman class to attain a 60% graduation rate. Therefore, while 40% will finish in the traditional number of years, the remaining 20% will put off completion of their baccalaureate degree to a later time (Cope, 1978).

Some studies make no distinction between temporary and permanent dropouts (Rugg, 1983). At both institutions students stopped out and re-entered at a later date. The numbers were more significant at UNR around four to five percent versus one to two percent at PSU annually. (Raw data not provided in this article). It is predictable based on employment trends that a few of those currently enrolled at UNR will continue to progress and graduate in the future. A stopout reorientation session is available at both institutions in conjunction with the

O.W.L.S., Older Wiser Learning Student programs. A continued monitoring of enrollment might reveal that both institutions will have graduation rates close to each other and national norms (Tables 3 and 4). It should be noted that a majority of nonresident students admitted with grades below the published standard experienced academic difficulty (Raw data not furnished in tables). Deleted from this study but also worth mentioning is that international students who had to meet more stringent requirements for admission progressed and graduated at levels above the resident and nonresident student populations at both institutions (Tables not provided).

#### Implications

Various intervention programs maybe able to improve graduation rates. This should be a theme of post secondary education in the 1990s as we try to reach all publics.

If the student senses an institutional commitment to streamline policies and procedures, they will more likely remain enrolled (Glennen & Baxley, 1985; Habley, 1981). A comprehensive orientation, counseling and advisement program may make a difference. A helpful supportive classified staff is essential to assisting students. Faculty members must be interested in student retention in addition to classroom learning and solving problems. New and creative strategies to maximize positive after class faculty-student interaction is an intervention technique to consider.

Additional planning and research needs to focus on designing a longitudinal data base capable of tracking each student on a semester-by-semester basis. The ability to update student information and monitor trends of stopouts and dropouts over a period of several years is

crucial. Follow-up studies need to be conducted on an annual basis, gathering data beginning with the semester of each student's initial enrollment. This yearly review assists as well in differentiating between involuntary dismissal from the institution for academic or social reasons and voluntary disassociation (Rugg, 1983).

The new data retrieval capacities of both the University of Nevada, Reno and Pittsburg State University computer record systems should now be able to track each entering student with the ability to extract subsets of data on desired groups such as nonresident freshman adults. System design allows for monitoring the progression of student subgroups with the capability to systematically disseminate information to academic and student service personnel.

In planning for future enrollments, one may look at the traditional variables of high school rank, test scores and secondary school grades; the characteristics associated with success; and programs and strategies to aid students. Graduation rates are a campus-wide issue, each school and college must study and analyze its own institutional data to see what is effective in reducing the lose of students by better meeting their needs.

#### Conclusions

We must continue to research why students stopout, why they leave and why they dropout. We must continue to experiment with intensive retention programs and develop and implement early identification systems to counsel and assist those students in high risk categories by responding to human needs. As Lewis, Leach and Lutz (1983) noted, we must improve the congruity of fit between the student as consumer and the institution as provider. Deming's central point of philosophy involves viewing customers

as part of the educational process (Cornesky, 1992). On a positive note, we need to analyze the characteristics and reasons of persistence to graduation.

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PITTSBURG STATE UNIVERSITY

PITTSBURG, KANSAS

TABLE 1  
A COMPARISON

1980 Freshman Admissions: Retention, Progression,  
Graduation and Attrition

	In-State (N=100)			Out-of-State * (N=100)		
	R	P/G (Actual)	A (Applied)	R	P/G (Actual)	A (Applied)
FR	100	100%	--	100	100%	--
SO	67	34%	33	62	37%	38
JR	58	31%	42	54	30%	46
SR	52	28%	48	42	29%	58
GR - 4 yr.	--	27%	--	--	28%	--
GR - 5 yr.	26	35%	74 (39)	10	35%	90 (55)
GR - 6 yr.	12	35%	88 (53)	7	39%	93 (54)
GR - 7 yr.	5	39%	95 (46)	4	40%	96 (56)
GR - 8 yr.	1	41%	99 (58)	3	41%	97 (56)
GR - 9 yr.	6	41%	94 (53)	2	42%	98 (56)
GR - 10 yr.	2	41%	98 (57)	2	42%	98 (56)

Adm Rq: Open

Adm Rq: 2.0 GPA on 4.0 scale  
or top 1/2 of high school class.

NOTE: R=Retention, P/G=Progression to next class (sophomore, junior, senior)/graduation, A=Attrition.

\*: International students were not included in this category.

UNIVERSITY OF NEVADA, RENO

RENO, NEVADA

TABLE 2  
A COMPARISON

1980 Freshmen Admissions: Retention, Progression,  
Graduation and Attrition

	In-State (N=100)			Out-of-State *			
	R	P/G (Actual)	A (Applied)	R	P/G (Actual)	A (Applied)	
FR	100	100%	--	100	100%	--	
SO	59	15%	41	60	21%	40	
JR	42	15%	58	47	15%	53	
SR	36	12%	64	41	14%	59	
GR - 4 yr.	--	3%	--	--	8%	--	
GR - 5 yr.	32	21%	68	33	25%	67	(42)
GR - 6 yr.	31	27%	69	33	28%	67	(39)
GR - 7 yr.	23	28%	77	18	29%	82	(53)
GR - 8 yr.	17	30%	83	14	30%	86	(56)
GR - 9 yr.	11	31%	89	10	30%	90	(60)
GR - 10 yr.	9	32%	91	7	31%	93	(62)

Adm Rq: HS GPA of 2.3 or higher on a 4.0 scale.

Adm Rq: HS GPA of 2.3 or higher on a 4.0 scale.

NOTE: R=Retention, P/G=Progression to next class (sophomore, junior, senior)/graduation, A=Attrition.

\*: International students were not included in this category.

TABLE 3  
A COMPARISON

Pittsburg State University, Kansas

University of Nevada, Reno

1980 Freshmen Admissions: Retention, Progression,

Graduation and Attrition

In-State  
(N=100)

In-State  
(N=100)

Table 1

Table 2

	R	P/G	A		R	P/G	A	
	(Actual)(Applied)				(Actual)(Applied)			
FR	100	100%	--		100	100%	--	
SO	67	34%	33		59	15%	41	
JR	58	31%	42		42	15%	58	
SR	52	28%	48		36	12%	64	
GR - 4 yr.	--	27%	--		--	3%	--	
GR - 5 yr.	26	35%	74	(39)	32	21%	68	(47)
GR - 6 yr.	12	35%	88	(53)	31	27%	69	(42)
GR - 7 yr.	5	39%	95	(46)	23	28%	77	(49)
GR - 8 yr.	1	41%	99	(58)	17	30%	83	(53)
GR - 9 yr.	6	41%	94	(53)	11	31%	89	(58)
GR - 10 yr.	2	41%	98	(57)	9	32%	91	(59)

Adm Rq: Open

Adm Rq: HS GPA of 2.3 or  
higher on a 4.0 scale.

NOTE: R=Retention, P/G=Progression to next class (sophomore, junior, senior)/graduation, A=Attrition.

TABLE 4  
A COMPARISON

Pittsburg State University, Kansas                      University of Nevada, Reno

1980 Freshmen Admissions: Retention, Progression,

Graduation and Attrition

Out-of-State \*  
(N=100)

Out-of-State \*  
(N=100)

Table 1

Table 2

R    P/G    A  
          (Actual)(Applied)

R    P/G    A  
          (Actual)(Applied)

FR	100	100%	--		100	100%	--	
SO	62	37%	38		60	21%	40	
JR	54	30%	46		47	15%	53	
SR	42	29%	58		41	14%	59	
GR - 4 yr.	--	28%	--		--	8%	--	
GR - 5 yr.	10	35%	90	(55)	33	25%	67	(42)
GR - 6 yr.	7	39%	93	(54)	33	28%	67	(39)
GR - 7 yr.	4	40%	96	(56)	18	29%	82	(53)
GR - 8 yr.	3	41%	97	(56)	14	30%	86	(56)
GR - 9 yr.	2	42%	98	(56)	10	30%	90	(60)
GR - 10 yr.	2	42%	98	(56)	7	31%	93	(62)

Adm Rq: 2.0 GPA on 4.0 scale or  
top 1/2 of high school class.

Adm Rq: HS GPA of 2.3 or  
higher on a 4.0 scale.

NOTE: R=Retention, P/G=Progression to next class (sophomore, junior,  
senior)/graduation, A=Attrition.

\*: International students were not included in this category.